

# ERIOGONUM CALLISTUM (POLYGONACEAE), A NEW SPECIES FROM THE TEHACHAPI MOUNTAINS OF CALIFORNIA

James L. Reveal<sup>1</sup>

University of Maryland  
College Park, Maryland 20742-5815, U.S.A.

and

New York Botanical Garden  
Bronx Park, New York 10458-5026, U.S.A.  
jreveal@umd.edu

## ABSTRACT

**Eriogonum callistum**, a new species of subg. *Eucycla* Nutt. from the Tehachapi Mountains of Kern Co., California, is the sole representative of **Sect. Lanocephala**, a new section allied to Sect. *Lachnogyna* Torr. & A. Gray, a taxon mainly of the Great Plains, but probably more closely related to Sect. *Latifolia* Benth. of the Pacific Coast. The new species differs in forming large, compact, roundish mounds of densely clothed caudex branches and rosettes of new leaves from which arise several upright scapose flowering stems terminated by a capitate inflorescence subtended by many bracts with many involucre containing numerous, hairy, bright white flowers on long, hairy pedicels, and glabrous, trigonous achenes.

## RESUMEN

**Eriogonum callistum**, una nueva especie del subg. *Eucycla* Nutt. de las montañas Tehachapi de Kern Co., California, es el único representante de la **Sect. Lanocephala**, una sección nueva próxima a la Sect. *Lachnogyna* Torr. & A. Gray, un taxon de las Grandes Llanuras principalmente, pero probablemente más relacionado con la Sect. *Latifolia* Benth. de la costa pacífica. La nueva especie difiere por formar grandes masas compactas redondeadas de ramas hojosas y rosetas de hojas nuevas, de las que surgen hacia arriba varios tallos floridos escaposos que terminan en una inflorescencia capitada subtendida por muchas brácteas, con muchos involucros que contienen numerosas flores blanco brillante, sobre pedicelos largos y pelosos, y aquenios trígonos glabros.

The discovery of another undescribed member of *Eriogonum* Michx. (*Polygonaceae* Juss., subf. *Eriogonoideae* Arn.) from California is not, in itself, a surprise, but one so distinct as to represent a new section, and of such potential as a cultivated garden plant, is at least unusual.

**Eriogonum** Michx. Sect. **Lanocephala** Reveal, sect. nov. TYPE: *Eriogonum callistum* Reveal.

A *Eriogono* sectionibus singularis floribus et pedicellis pilosis.

**Eriogonum callistum** Reveal, sp. nov. (**Fig. 1**). TYPE: U.S.A. CALIFORNIA: Kern Co.: Tehachapi Mountains, 26 May 2006, R.E. Preston 2400 (HOLOTYPE: UC; ISOTYPES: NY, RSA, US).

A *Eriogono lachnogyno* Torr. ex Benth. foliis latioribus et longioribus, involucris numerosis (10–35 nec 2–5), et floribus albis (nec flavis) et *E. latifolio* Sm. floribus pilosis differt.

Plants perennial forming densely white-tomentose, rounded, compact mounds, 3–10(–11) dm across and (0.5–)1–3.5 dm high, arising from a stout, woody taproot with numerous, spreading, tightly compact caudex branches covered with marcescent leaves ultimately terminated by a tight leafy rosette of numerous, newly-formed basal leaves; leaves fasciculate in terminal tufts, persistent, the petiole 1.5–5 cm long, grayish-white tomentose, the petiole-base narrowly triangular, glabrous, 0.5–3 cm long, 0.3–0.8 cm wide, becoming

<sup>1</sup>Mailing address: 18625 Spring Canyon Road, Montrose, Colorado 81401-7906, U.S.A.



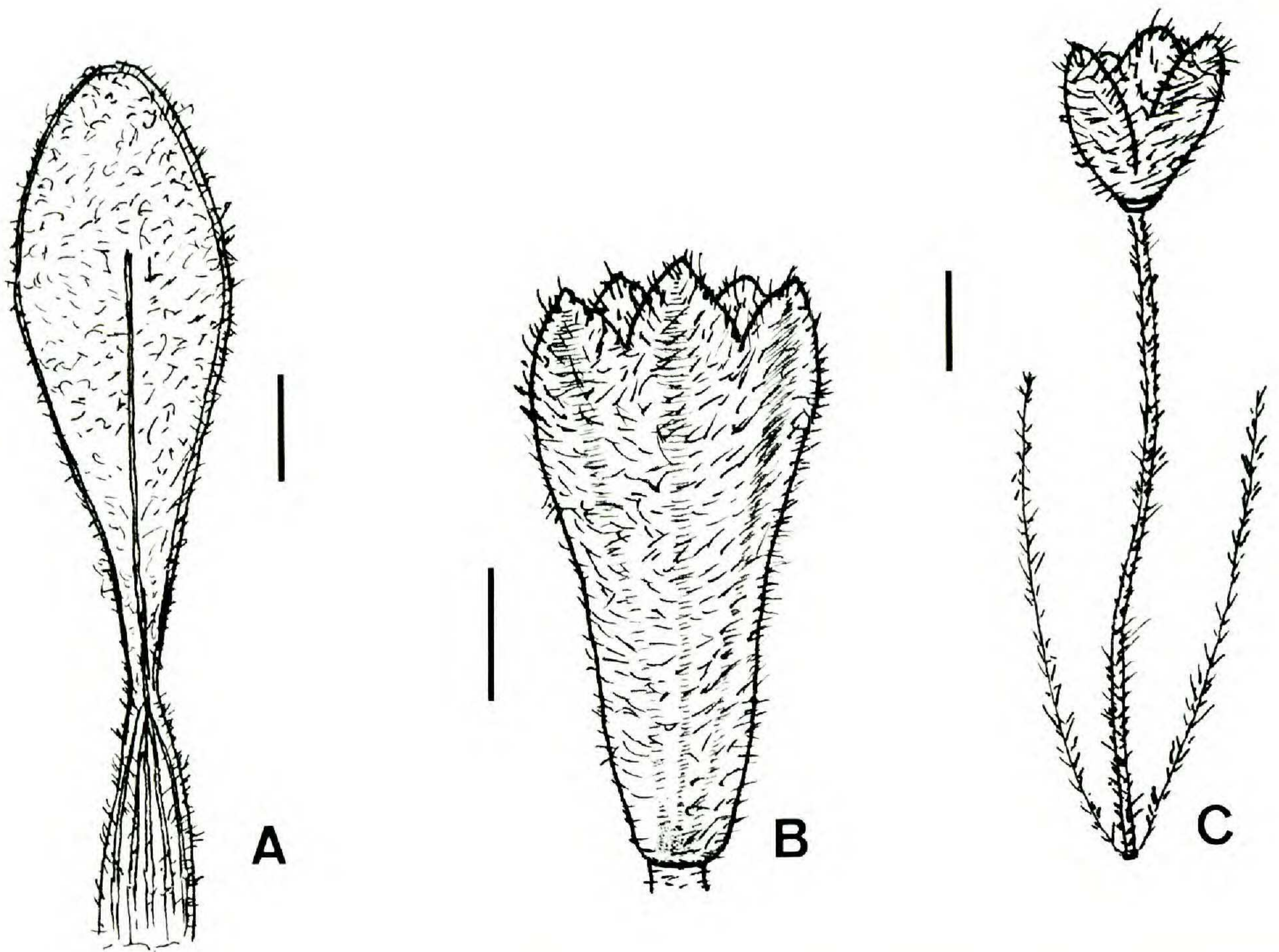


FIG. 1. Illustration (left to right) of a leaf, an involucre, and a flower with its pedicel and bractlets.

papery and reddish-brown with age, the blade elliptic, flattened or slightly folded longitudinally, (1-)2-5 cm long, 0.8-2 cm wide, silky grayish-white tomentose on both surfaces, the margins entire, flat; *flowering stem* scapose, arising centrally from rosette, erect or nearly so, slender, solid, not fistulose, (1.5-)2-4(-4.5) dm long, greenish to grayish, becoming reddish with age, thinly tomentose; *inflorescences* capitate, 2-4 cm across; *bracts* 8-16, subfoliaceous, linear to narrowly lanceolate, 4-12(-15) mm long, 1-3 mm wide, tomentose on both surfaces except glabrous basally on adaxial surface; *peduncles* absent; *involucres* 10-25(-35) per cluster, turbinate, (5-)6-8(-9) mm long, 2-4 mm wide, rigid, tomentose abaxially, glabrous adaxially, the teeth 5, erect, 2-3.5 mm long, acute apically; *flowers* bisexual, not attenuated basally, 2-5 mm long, the pedicels pilose, (5-)6-10(-12) mm long, the bractlets linear, 4-8(-10) mm long, pilose throughout, the perianth pinkish-white in bud, becoming bright white, densely white tomentose with long, soft hairs abaxially, glabrous adaxially except for glands along the rosy to yellowish-green midribs, the tepals connate 1/4-1/3 their length, essentially monomorphic, oblong to elliptic, the outer three slightly broader than the inner three; *stamens* exserted, 3-6 mm long, the filaments pilose proximally, the anthers oblong, pale yellow with a tinge of pink to light rose, 0.4-0.5 mm long; *achenes* trigonous, 3-4 mm long, glabrous.

Other specimens examined: **U.S.A. Kern Co.:** Tehachapi Mountains, 13 Jun 2006, B.D. Schafer 214 (DAV, NY, RSA, UC, US); 25 Jul 2006, J.L. Reveal et al. 8781 (NY, RSA, UC, US).

*Eriogonum callistum* (from *kalliston* Gr., most beautiful; **Figs. 2, 3**) represents a new section within subg. *Eucycla* Nutt. The Sect. *Lanocephala* (from *lenos* Gr., wooly hairs, and





FIG. 2. Habit of *Eriogonum callistum*.

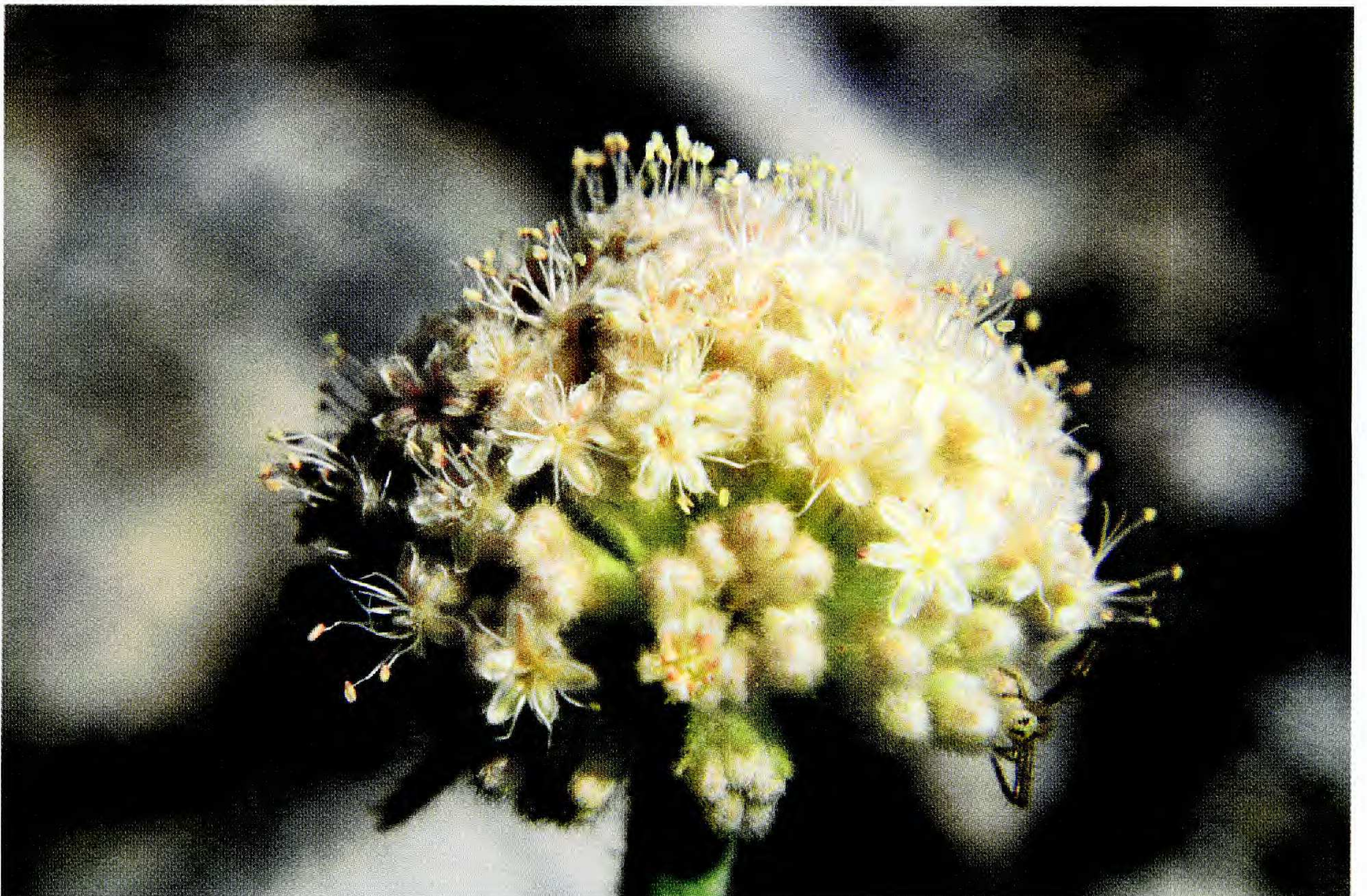


FIG. 3. An inflorescence of *Eriogonum callistum* at anthesis.



*kephale*, head, as to the pilose flowers on hairy pedicels arranged in a capitate inflorescence) is similar to Sect. *Lachnogyna* Torr. & A. Gray, a taxon of two species encountered from eastern Arizona to western Texas northward onto the southern Great Plains to Colorado and Kansas. Although the type, *E. lachnogynum*, has hairy achenes, the other species, *E. havardii* S. Watson, has glabrous fruits. The soft, silky, grayish-white tomentum of the leaves of *E. callistum* is similar to that seen in both species, and while both members of Sect. *Lachnogyna* have yellow flowers, those of *E. callistum* are a bright white. The monospecific section is probably more closely allied to Sect. *Latifolia* Benth., and specifically the coastal element of the taxon, *E. latifolium* Sm. Both form rounded mounds of leaves and have numerous involucre in capitate heads. Still, *E. latifolium* is best characterized as a subshrub or shrub with long, aboveground, woody stems. *Eriogonum callistum* is an herbaceous perennial with short, stout, caudex branches buried in a mixture of soil and marcescent leaves. Nonetheless, Sect. *Lanocephala* is the only taxon in the genus with hairy pedicels. The flowers of *E. callistum* are individually small but numerous in numerous involucre that together form a capitate cluster atop long, slender scapes. The achene is trigonous, glabrous, and contains a curved embryo in abundant mealy endosperm; as such it is typical of most species of subg. *Eucycla*. Ongoing molecular studies should resolve an exact placement of Sect. *Lanocephala*.

At present, *Eriogonum callistum* is known only from a few scattered locations that altogether contain some 2000 individuals in a variety of age classes. The new species grows mainly in open places among manzanita on rock outcrops of pre-Cretaceous limestone (Jennings & Strand 1969), on open ridges within mixed chaparral. Associated species include *Adenostoma fasciculatum* Hook. & Arn., *Amelanchier utahensis* Koehne, *Arctostaphylos glauca* Lindl., *Arctostaphylos parryana* Lemmon, *Hesperoyucca whipplei* (Torr.) Trel., *Pinus monophylla* Torr. & Frém., *Ceanothus cuneatus* (Hook.) Nutt., *Quercus berberidifolia* Liebm., *Tauschia parishii* (J.M. Coult. & Rose) J.F. Macbr., *Castilleja martinii* Abrams, and *Corydanthus eremicus* (Coville & C. V. Morton) Munz.

In the key to *Eriogonum* in *Flora of North America* (Reveal 2005), the new wild buckwheat will key to subg. *Eucycla*, Key 1–California (p. 225) and will proceed to lead number 12 (p. 226). That may be modified as follows:

- 12. Perianth glabrous; s Sierra Nevada, Transverse Ranges, and desert ranges to the east from Mono County s to Los Angeles and San Bernardino counties \_\_\_\_\_ **73. *Eriogonum kennedyi***
- 12. Perianth pubescent; Last Change Range, Inyo and Mono counties, or Tehachapi Mountains, Kern County.
  - 12a. Achenes pubescent; pedicels glabrous; scapes up to 0.3 dm long; Last Change Range, Inyo and Mono counties \_\_\_\_\_ **68. *Eriogonum shockleyi***
  - 12a. Achenes glabrous; pedicels pilose; scapes 2–3.5 dm long; Tehachapi Mountains, Kern County \_\_\_\_\_ **92a. *Eriogonum callistum***

The author has agreed not to publish at this time detailed information as to the exact location and distribution of *Eriogonum callistum*.

*Eriogonum callistum* should make an attractive addition to the rock garden flora. The large, roundish mats are composed of numerous tight rosettes of persistent leaves that remain attractive long after flowering. The fresh leaves, plus those of previous years that remain on the caudex branches, allow the mats to accumulate soil and plant debris and thus enlarge as roundish mounds with each growing season. The numerous, closely arranged caudex branches mean that the plants can be grown as tight, compact clusters along borders or in patterns. The plant's natural habitat suggests that it requires little



watering, prefers gravelly soil in open, sunny places, and should survive with little or no maintenance.

#### ACKNOWLEDGMENTS

I wish to thank Hazel Pollard for preparing the line drawing.

#### REFERENCES

- JENNINGS, C.W. and R.G. STRAND. 1969. Geologic map of California, Los Angeles Sheet. California Division Mines and Geology, Sacramento. Scale: 1:250,000.
- REVEAL, J.L. 2005. 44a. *Polygonaceae* Jussieu subfam. *Eriogonoideae* Arnott, Encycl. Britannica (ed. 7), 5:126. 1832. Wild buckwheat. Fl. N. Amer. 5:218-478.